All right, class. Welcome to our second tutorial. This tutorial that we're going to do is on input table examples. The input tables that I'm going to show you how to work through today is a theme that's going to go through the class from our first module all the way through the last module.

And it's a technique that I really believe in. It's one that we use a lot out in the real world that's very applicable to many different kind of financial situations and financial modeling.

So I want you guys to get this technique down. And I think it's something that you'll use probably for the rest of your career.

So the way that this works is we've got a number of different variables. And what we're going to be doing is we're going to be forcing this profit and loss statement. So we have 2016 data here. And we know that we're going to have some changes in 2017.

But we want to set this up in a way that we can capture those rather quickly. And if we set up our worksheet up properly, then we'll be able to make those changes on the fly, and be able to, when you huddle up with your group of financial management folks, you can all sit around the table, and ideas can be thrown out there, and they can be implemented and applied really quickly under this technique.

So what we're going to do is our worksheet here is going to be linked back to these cells here, which we call our input table. And we'll be able to change these inputs to drive the different conditions that we believe potentially could be in play for 2017 here through this profit and loss statement.

So let's kind of get started on this. Down here we've got assumptions. So 2017 assumptions. We're saying that we believe that there's going to be a 5% increase in the number of surgeries performed.

Now, the way that we're going to do this is we're going to drop this 5% into this input box here. And a 2% decrease in the average charge per surgery. So we're going to put that in as a negative entry here.

And a change in variable expenses. We believe that that's going to be a 4% increase. And so we'll drop that [? tau ?] [INAUDIBLE]. And a change in fixed expenses, which we believe are going to increase by 6% for 2017.

OK. So we have our number of surgeries performed for 2016. And we have the average charge per surgery. And we have our variable costs per surgery at $1,200.

So our goal here is to be able to fill in these three items to drive our profit and loss here. It's just this is a very

simple profit and loss statement. We wanted to keep it simple to start with so that you guys can kind of see the real power behind these input tables.

So to start with, let's apply these percentages that we have first to our 2016 data. So similar to the formula that we used in our first tutorial, this is going to be equal to the 4,000. And what we're trying to do here is to apply this 5% increase. So it's one plus this 5% increase. We'll apply that to the 4,000 surgeries that we had in 2016.

So in 2017, with that 5% increase, we believe that our surgeries would go up to 4,200.

The average charge per surgery is going to go down. And we're going to apply it, again, to this 2016 average charge that we had. And, again, it's 1 plus this negative 2% that we have. And we believe that the average charge per surgery is going to drop to $2,254.

And our variable cost surgery is going to go from $1,200 times 1 plus this variable. And that's going to go to $1,248, or a 4% increase.

We will apply the 6% fixed cost in just a second. But first, to set up our profit and loss statement, the revenue that is generated is there are two inputs that are in play here. One is the number of surgeries performed. And the other is the average charge per surgery. So it's just equal to this 4,200 surgeries that we're projecting, times the average charge to give us our gross revenue.

And for that entry we get $9,466,800. You can see the combination of those two inputs has increased our revenue by approximately $266,000, from $9,200,000 to the $9,400,000.

Variable expenses, as we say here, are dependent on volume. So a variable expense-- and we'll learn more about that as we get into, it's either module one or module two we'll touch on the variable expense. But the variable expense is dependent on volume. And it's a charge per case that is a value added piece for the customer. If we're seeing patients, it's the tongue depressors. It's the different types of procedures that are performed, and tests that are run that would apply to each patient. But it's a variable expense. And it's dependent on the number of surgeries that are performed.

So in this case here, it's, again, the number of surgeries performed times our variable costs per surgery, which is this $1,248. And then you can see our expenses in this case went up from $4,800,000 to $5,241,000.

And our fixed costs are the fixed costs from 2016. And we said in our assumptions that there was going to be a 6% increase. So that is just 1 plus this 6%.

So this is all pretty straightforward. You can see under the conditions that we have here that our profit went from

$800,000 in 2016 to $409,000 in 2017 when we apply these different percentages here.

But here's the real benefit behind using these input tables, and the real power behind that. And that is that once we have our worksheet set up this way, we don't have to go in and change each one of these inputs down here. We can easily save-- if somebody in our group says, I think that 5% really should be 6%, and it rolls through our worksheet, and we can apply that immediately. And we'll take that back to 5%.

Or they say, the change in the variable expense, we don't think it's going to be 4%. We think it may only be 2% in this case. And you can see how that rolls through.

Or the change in our average charge per surgery. It's not going to be negative 2. But instead we think that we're going to be able to get an extra 2%, based upon marketing conditions, or our market analysis, or some additional piece of business or project that we have within our hospital that's going to potentially be able to generate a larger average charge per surgery. And if we do that we can see how sensitive our profit and loss statement is to those.

And we can check sensitivity on each one of those. But the key here is that we can easily change all of this on the fly extremely quickly. And it gives us the ability to engage other folks into our financial analysis. We're able to bring in higher level people that maybe don't understand all of how the worksheet itself is put together. But they certainly understand what a change in the number of surgeries performed means, or the change in the average charge, or the change in fixed expenses, those type of things.

So we're able to engage those folks. And they become more involved in the process of deciding what do we think when we're projecting where we think that we're going to be for the next year. It allows them to be engaged in that process, and for us to make those changes really quickly.

So this is kind of a really a pretty simple technique to use. But I want you guys to get used to doing it this way.

And I really do believe once you get familiar with kind of setting your worksheets up this way, where you can tie everything back to these input tables, that you're able to make these changes really quickly, and you can really see the value in that.

In my own work I use them all the time. And the folks that work with me are very familiar with it. And, again, it helps to get them engaged in the actual decision making and financial analysis that we're trying to perform.

That is the end of this tutorial. And, again, this is in module one. So we get started off with this.

We'll see this same technique used really throughout the case. We'll use this almost for all of our problems. So kind of familiarize yourself with the way that we're doing this and you'll be right up to speed with what we're doing.

So that concludes this tutorial. And I'll see you on the next tutorial.